(No Model.)

A. LANCASTER.

WIND MOTOR.

No. 523,217. Patented July 17, 1894.

Fig. 1.

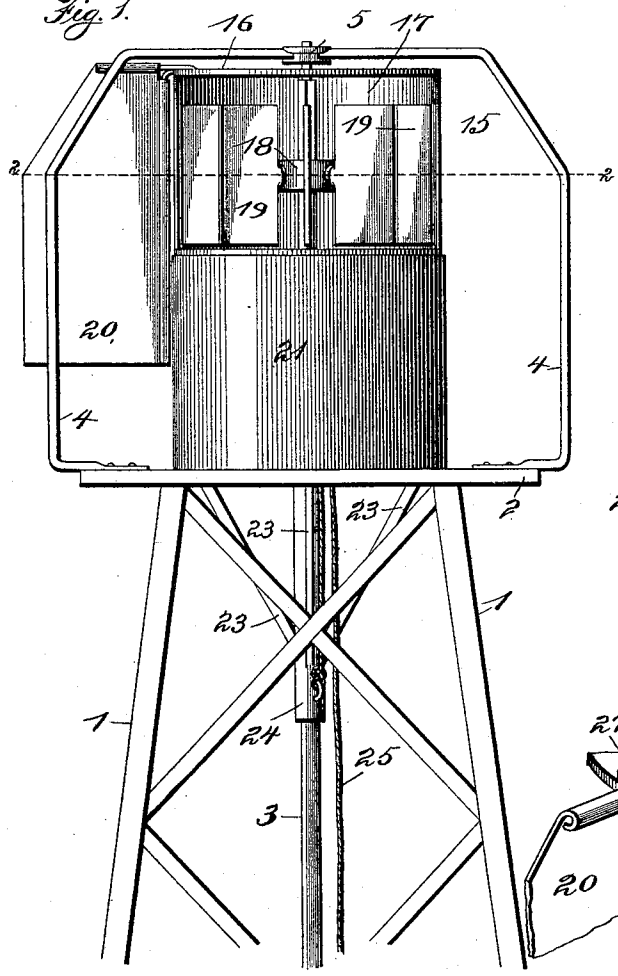


Fig. 3.

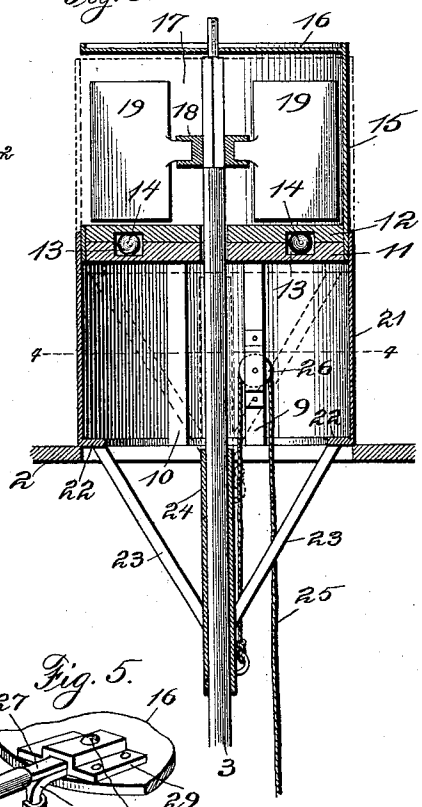


Fig. 5.

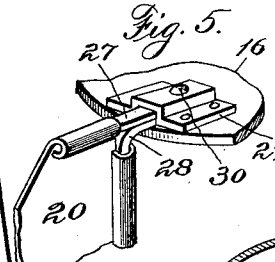
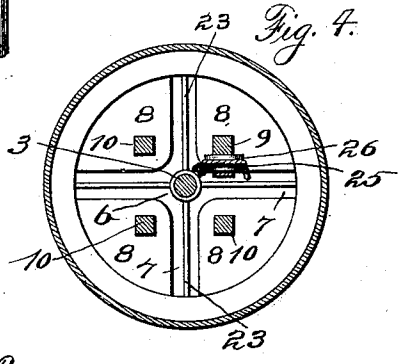


Fig. 4.



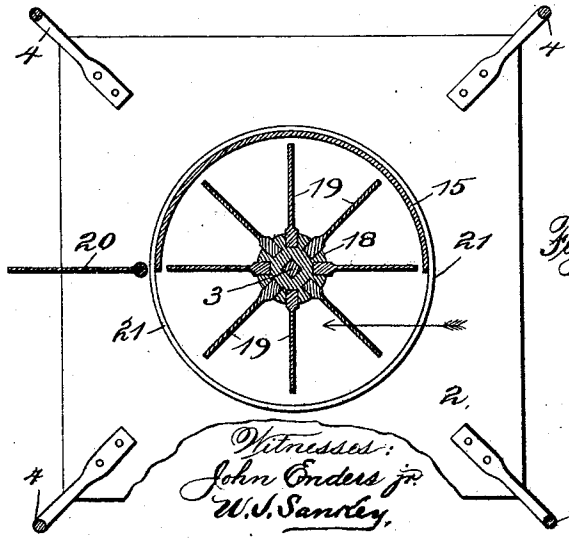


Fig. 2.

Witnesses:
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UNITED STATES PATENT OFFICE.

AARON LANCASTER, OF PRINCETON, IOWA.

WIND-MOTOR.

SPECIFICATION forming part of Letters Patent No. 523,217, dated July 17, 1894.

Application filed January 11, 1894. Serial No. 496,499. (No model.)

To all whom it may concern:

Be it known that I, AARON LANCASTER, of Princeton, Scott county, and State of Iowa, have invented certain new and useful Improvements in Wind-Motors, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to an improved wind-motor, and consists in the novel arrangement, combination and construction of parts as will be more fully hereinafter described and designated in the claims.

In the drawings: Figure 1 is a side elevation of my improved motor, showing it mounted on a power as required for practical use. Fig. 2 is a horizontal cross section taken on the line 2—2 of Fig. 1. Fig. 3 is a vertical central section of Fig. 1, parts of the same being removed. Fig. 4 is a horizontal cross section taken on the line 4—4 of Fig. 3. Fig. 5 is an enlarged detail perspective view more clearly showing how the vane is connected to its support.

1 indicates a tower and 2 a platform upon which the motor is supported.

3 indicates a vertical shaft which is square adjacent its upper end and its extreme upper end is round so as to freely work in bearings.

Connected to the upper side of the platform 2 and at each corner is a bar 4 which extends upward to the top of the motor and then inwardly and are connected to a disk 5 which forms bearings for the upper end of the shaft 3.

The platform 2 is provided with an opening 6 in its center, from which four radial slots 7 project, thus forming projections 8 in the platform. Connected to the inner corners of the projections 8 are four vertical supports 9 and 10 which extend upward a suitable distance to support a disk 11. Located on the disk 11 is another disk 12 the same in construction as the disk 11. Formed in the adjacent sides of the disks 11 and 12 is an annular groove 13 to form a guide-way for antifriction balls 14. Connected to the peripheral edge of the disk 12 and extending upwardly a suitable distance, is a casing 15 which is constructed with a cover 16. By this construction it forms a chamber 17 therein; one side of said casing is cut away for the purpose hereinafter mentioned.

Mounted on the square portion of the shaft 3 and in the chamber 17 is a casting 18 to which a series of radial blades 19 are connected, which are of such a size that they will readily rotate in said chamber.

Connected to the cover 16 of the casing 15 and extending downward therefrom, adjacent one corner of the cut away portion, is a vane 20 for the purpose of holding the cut-away portion in alignment with the wind. (See Fig. 2 for illustration.)

21 indicates another casing, which is constructed of a suitable size that it will slide over the casing 15, the upper end of which is open to allow this operation, and the lower end is constructed with an inwardly projecting annular flange 22 to which a suitable number of bars 23 are connected, and their opposite ends being connected to a sleeve 24 which is located on the vertical shaft 3.

25 indicates a rope which is connected to the lower end of the sleeve 24 and extends upward and passes over a pulley 26 connected to the adjacent side of the support 9 and thence downward to any suitable point.

The vane 20 is constructed with a bar 27 connected to its upper end and a bar 28 connected to its edge adjacent the casing, which is bent at right angles adjacent its top and is parallel with and engages the bar 27, they extending outwardly a suitable distance from the corner of said vane to be detachably inserted in a plate 29 which is connected to the cover 16 and these bars are held in position by a bolt 30 passing through said blade and the adjacent ends of the bars 27 and 28.

The operation is as follows: When the motor is in the position as shown in Figs. 1 and 2 and the wind is coming from the direction indicated by the arrow in Fig. 2, it will strike the blades 19, which project out of the cut away portion of the casing 15, this cut-away portion allowing the wind to come in contact with the blades at one side of the shaft only. When the wind so strikes said blades it will carry them around and they being connected to the shaft as hereinbefore stated will cause said shaft to be rotated, the vane 20 holding the casing in the required position. When

it is desired to stop the operation of the motor, the operator draws down on the rope 25 which will cause the casing 21 to telescope the casing 15, thus closing the cut-away portion, which will cut off the wind from the blade thus causing the motor to stop.

What I claim is—

1. In a wind motor of the class described, a disk mounted on suitable supports, another disk revolubly mounted on the first mentioned disk, an upwardly projecting casing a portion of which is cut away connected to the last mentioned disk, a vertical shaft passing through the center of said disk and the casing, a series of radial blades located in the chamber formed by said casing and connected to said shaft, and means for opening and closing the cut-away portion of said casing, by the telescoping of the casings substantially as herein specified.

2. In a wind motor, a vane constructed with a bar connected to one edge the upper end bent at right angles thereto, a bar connected to the upper end of said vane which projects outwardly adjacent to and parallel with the upper end of the first mentioned bar, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses

AARON LANCASTER.

Witnesses:
H. H. HULL,
J. L. WALKER.